Site Investigation Performed at Dayton Power and Light Company Transportation Center 1900 Dryden Road Dayton, Ohio

Prepared for:

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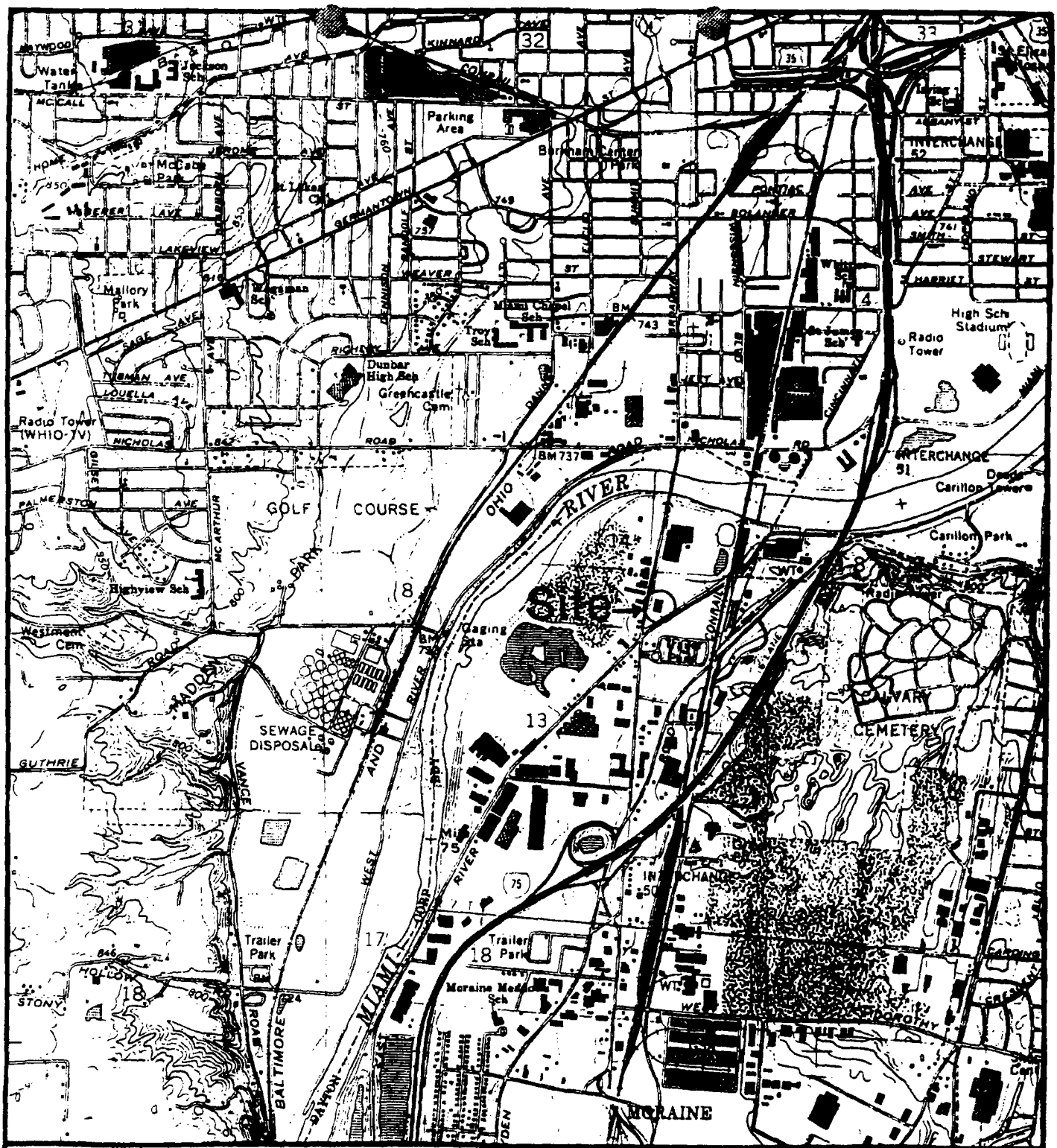
INTRODUCTION

Hunter/Keck, Inc. (HKI) was retained by the Dayton Power and Light Company (DP&L) to perform a site investigation at DP&L's Transportation Center, 1900 Dryden Road, Dayton, Ohio. The general site location is shown on Figure 1. The site investigation was performed pursuant to Rule 1301:7-7-36(c)(3) of the Ohio Administrative Code, which governs corrective actions and cost recovery standards for petroleum underground storage tank (UST) releases. The purpose of this report is to present the findings of the site investigation.

BACKGROUND

In April of 1989, two 10,000-gallon underground storage tanks (USTs) which had contained gasoline were removed from service. Both tanks were single-walled, $StiP_3$ tanks that were located in the same tank basin. The tanks were approximately four years old. Visual inspection of each excavated tank surface, tank coating, and tank welds revealed fair tank conditions. The interior of both tanks had previously ben lined with fiberglass. During removal of the USTs, a gasoline odor was noted. In an effort to remove residual petroleum hydrocarbons, additional excavations were performed. Excavation terminated on May 9, 1989. The final excavation dimensions were approximately 35 feet (east/west) by 50 feet (north/south) by 27 feet deep. Four other underground storage tanks located north of the gasoline tanks were also removed. The northern tank basin was a clean closure. Details of the closure



Site Location
Dayton Power & Light
Dryden Road

1900 Dryden Road
Moraine Township
Montgomery County
Dayton, Ohio

FIGURE 1

Adapted from 7.5' USGS topographic quadrangle: Dayton South, 1981.

may be found in HKI's report entitled, "Report of Underground Storage Tank Closure Assessment", dated May 25, 1989.

Further enlargement of the gasoline tank cavity was discontinued in each direction for the following reasons:

a. Further excavation to the north and south was discontinued when soil samples analyzed using vapor headspace techniques registered < 5 ppm (parts per million) on the HNU photoionization detector.
b. Further excavation to the west was limited by the presence of a storm sewer.
c. Further excavation to the east was restricted by the Transportation Center building footer.
d. Deeper excavation was terminated when groundwater was encountered at a depth of 27 feet below grade.

Soil samples were collected from three locations on the floor of the excavation, composited, and analyzed as a single sample for total lead, TPH (total petroleum hydrocarbons), and BTEX compounds (benzene, toluene, ethyl benzene, and total xylenes). The results of the laboratory analyses performed on the composite soil sample are presented in Table 1.

Table 1

Results of Laboratory Analyses Performed on
Composited Soil Sample - Floor of Tank Cavity
Final Excavation

Analyte	Unit	Detected Concentration
Benzene	ppb	< 5
Toluene	ppb	< 5
Ethyl Benzene	ppb	< 5
Total Xylenes	ppb	< 5
Total Lead	ppm	< 5
Total Petroleum Hydrocarbons	ppm	130

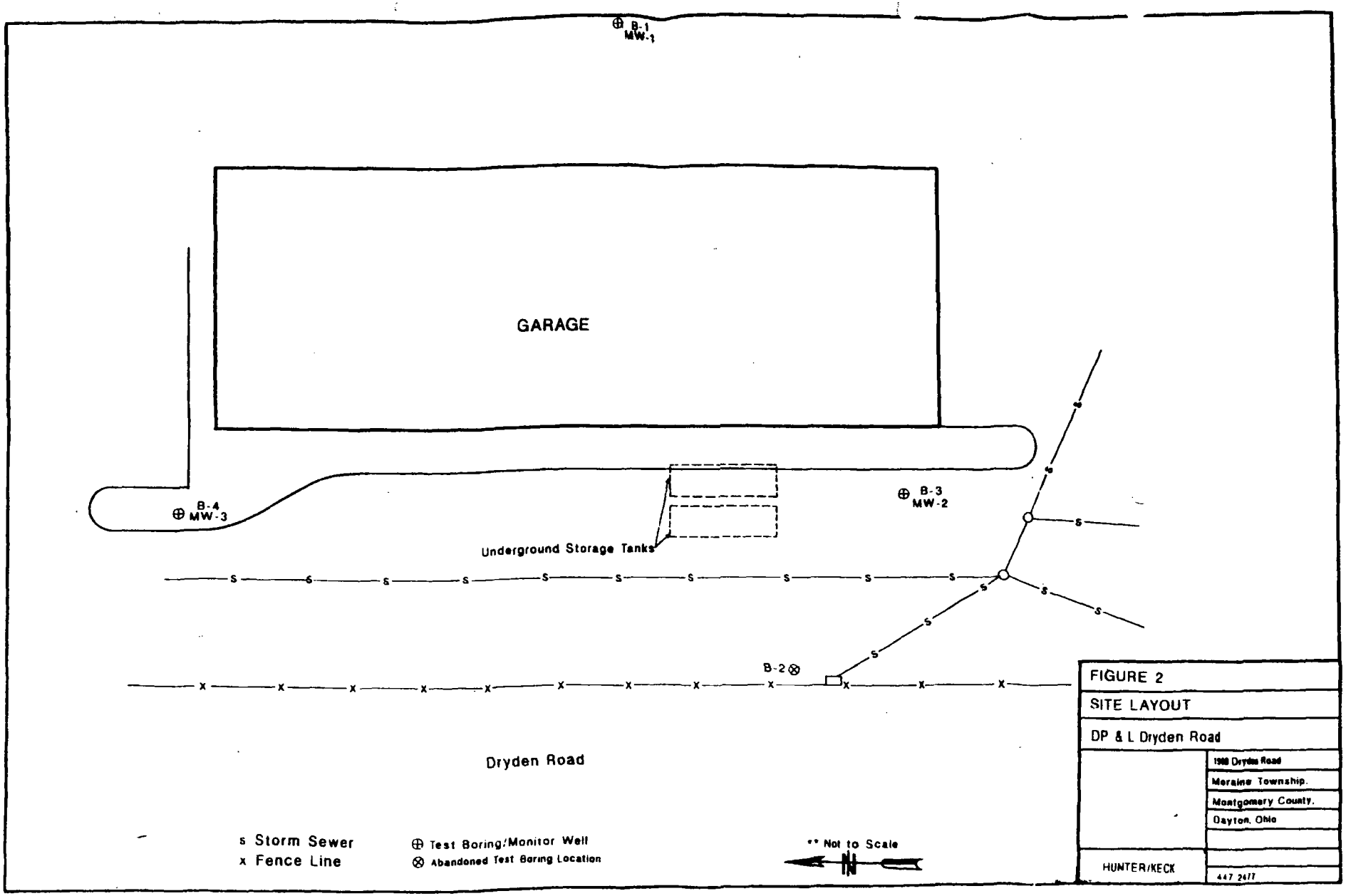
ppb = parts per billion
ppm = parts per million

SITE DESCRIPTION

The DP&L Transportation Center is located at 1900 Dryden Road, Dayton, Ohio. A vehicle maintenance facility is located on the southwestern portion of the property. The previously removed gasoline USTs were located outside of the vehicle maintenance facility adjacent to the southwestern wall. The surface area in the vicinity of the former UST location prior to tank removal was primarily asphalt and concrete. At the time this investigation was conducted, the tank cavity had been backfilled; however, the area of disturbed asphalt had not been repaved. A general site layout is shown on Figure 2.

SCOPE OF WORK

To acquire the necessary data to prepare the site investigation report, Hunter/Keck, Inc.:


B-1
MW-1
GARAGE
B-4
MW-3
B-3
MW-2
Underground Storage Tanks
B-2
Dryden Road
s Storm Sewer
x Fence Line
Test Boring/Monitor Well
Abandoned Test Boring Location
** Not to Scale
N
FIGURE 2
SITE LAYOUT
DP & L Dryden Road
1988 Dryden Road
Moraine Township,
Montgomery County,
Dayton, Ohio
HUNTER/KECK
447 2477

1. Performed a soil boring program, which consisted of drilling four test borings;
2. Completed three of the four test borings as groundwater monitoring wells;
3. Submitted groundwater samples to a laboratory for analyses;
4. Reviewed available literature to evaluate local and regional hydrogeological conditions, and surrounding land use;
5. Performed a search of the Ohio Department of Natural Resources water well log files to identify water wells located in the vicinity of the site.

SITE INVESTIGATION

Test Borings

Four test borings (designated B-1 through B-4) were drilled at the site. Soil samples were collected at approximately five foot intervals from each test boring to define subsurface lithology. Test borings were drilled using 4¼-inch I.D. hollow stem auger drilling techniques. Soil samples were obtained using 2-inch I.D. by 24-inch long split-spoon samplers. Upon recovery from the borehole, each sampler was placed on clean aluminum foil and opened. The amount of soil recovered was measured and the sample characterized by the on-site geologist. Each soil sample was screened for organic vapors using an HNU P.I. 101 photoionization detector. Results of the organic vapor screening performed on soil

samples obtained from test borings are presented in Table 2. A summary of test boring depths, depths at which saturation was encountered, and descriptions of identified zones of saturation are presented in Table 3. Test boring logs are presented in Appendix A.

All downhole drilling equipment was decontaminated between boring locations using a high pressure hot water washer. Sampling equipment was decontaminated between successive sampling intervals by washing in a liquinox soap solution, followed by a double rinse in potable water, a final rinse with distilled water, and air drying.

Groundwater Monitoring Wells

Test borings B-1, B-3, and B-4 were completed respectively as groundwater monitoring wells MW-1, MW-2, and MW-3. Test boring B-2 was not completed as a monitoring well because of auger refusal at 26 feet. Groundwater monitoring well locations are shown on Figure 2. Groundwater monitoring well completion diagrams and construction details are presented in Appendix B. Following installation, monitoring wells MW-1 and MW-2 were developed using a Keck submersible pump. Monitoring well MW-3 was developed using a hand bailer. The top of well casing elevation and ground surface elevation for each monitoring well was established by survey. An arbitrary reference was established because of the absence of a local U.S.G.S. benchmark. The left pointing arrow on a fire

Table 2

Results of Organic Vapor Screening Performed on Soil Samples
Obtained from Test Borings
(All responses in parts per million - ppm)

TEST BORING B-1

Sample Number	Sample Depth (Feet-BGL)	Instrument Response
B1-1	4 - 6	< 1
B1-2	9 - 11	< 1
B1-3	14 - 16	< 1
B1-4	19 - 21	< 1
B1-5	24 - 26	< 1
B1-6	29 - 31	< 1
B1-7	34 - 36	15 - 20

TEST BORING B-2

Sample Number	Sample Depth (Feet-BGL)	Instrument Response
B2-1	4 - 6	< 1
B2-2	9 - 11	< 1
B2-3	14 - 16	< 1
B2-4	19 - 21	< 1

Auger refusal at 26 feet

TEST BORING B-3

Sample Number	Sample Depth (Feet-BGL)	Instrument Response
B3-1	4 - 6	< 1
B3-2	14 - 16	< 1
B3-3	19 - 21	< 1
B3-4	24 - 26	< 1
B3-5	29 - 31	9
B3-6	34 - 35	300

TEST BORING B-4

Sample Number	Sample Depth (Feet-BGL)	Instrument Response
B4-1	14 - 16	1
B4-2	21 - 23	1
B4-3	24 - 26	1
B4-4	29 - 31	< 1

BGL = Below Ground Level

Table 3

Summary of Test Boring Completion Depths, Depths at Which Saturation was Encountered, and Description of Identified Zone of Saturation

Test Boring Number	Completion Depth Feet - BGL	Depth at Which Saturation Was Encountered Feet - BGL	Description of Saturated Zone
B-1	37	27	Sand and gravel
B-2	27	26	Sand and gravel
B-3	36	26	Sand and gravel
B-4	31	26	Sand and gravel

BGL = Below Ground Level

hydrant located on the west side of the Transportation Center building was assigned an elevation of 100 feet. Depth to groundwater was measured in each of the three monitoring wells on September 12, 1989 and groundwater elevations were calculated. Table 4 presents a summary of groundwater monitoring well elevational data and depth to groundwater data.

LABORATORY ANALYSES

To evaluate groundwater quality, groundwater samples were collected on September 12, 1989 from each of the three groundwater monitoring wells. All laboratory analyses were performed by Chemrox Laboratories, Inc. in Shelton, Connecticut. Prior to sample collection, each groundwater monitoring well was purged of at least three volumes of groundwater. Following the purging process, pH, temperature, and specific conductance were measured and recorded. Groundwater samples were collected with Teflon bailers. Immediately prior to sample collection at each well a bailer blank was collected. Groundwater samples and bailer blank samples were poured directly from the bailers into appropriate sample containers. Groundwater monitoring field data log sheets summarizing the purging and sampling data are presented in Appendix C. All groundwater samples and bailer blank samples were analyzed for total petroleum hydrocarbons, dissolved lead, and BTEX compounds (benzene, toluene, ethyl benzene, and total xylenes). A summary of the results of the laboratory analyses performed on the groundwater and bailer blank samples is presented in Table 5.

Table 4

Groundwater Monitoring Well Elevational Data and
Depth to Groundwater Data

Monitoring Well/Test Boring Number	Date Installed	Ground Surface Elevation	T.O.W.C.* Elevation	9/12/89 Depth to Groundwater From T.O.W.C.*	9/12/89 Static Groundwater Elevation
MW1/B1	8/01/89	98.39	97.80	26.40	71.40
MW2/B2	8/24/89	98.19	97.86	26.58	71.28
MW3/B4	8/28/89	98.55	98.65	27.27	71.38

All elevational data reported in feet above an arbitrary datum.

* T.O.W.C. = Top of Well Casing

Table 5

Summary of the Results of Laboratory Analyses
Performed on Groundwater Samples and Bailer Blank Samples

(All concentrations in parts per million)

Test Boring/ Monitoring Well No.	Date Sampled	Benzene	Toluene	Ethyl Benzene	Xylenes	TPH	Total Lead
MW-1	9/12/89	U	U	2.900	1.100	36	< 0.006
MW-2	9/12/89	3.700	11.000	6.100	7.500	58	0.010
MW-3	9/12/89	U	U	U	U	< 1	0.018
Bailer Blank Number							
Pre MW-1	9/12/89	U	U	U	U	NA	NA
Pre MW-2	9/12/89	U	U	U	0.0098	NA	NA
Pre MW-3	9/12/89	U	0.005	U	0.012	NA	NA

U = Below laboratory detection limit; detection limit presented on laboratory report.

NA = Parameter not analyzed

Laboratory reports, quality control data, and the chain-of-custody record are presented in Appendix D.

GENERAL HYDROGEOLOGIC SETTING

The geologic setting in the Dayton, Ohio area is that of buried pre-glacial or inter-glacial river valleys eroded into relatively horizontal sedimentary bedrock strata. During the ensuing glacial stages, these wide, deeply cut valleys were filled with sediments, some to the point of obscurity, which left the terrain with its present appearance. Geologic materials filling the valleys consist principally of sand and gravel outwash deposits and glacial till which occurs as lenses and layers interbedded with the sand and gravel. Glacial till, which was deposited directly by the ice as it moved over the area, is a heterogeneous mixture of clay and stones and lacks assortment or stratification.

Outwash deposits in the Dayton area range in thickness from about 120 to 250 feet. They are the primary source of the large groundwater supplies that are pumped for municipal and industrial use. In some parts of the Dayton area, well-defined till sheets, buried by 30 to 60 feet of sand and gravel, extend almost entirely across the major valleys and separate the outwash deposits into two or more distinct aquifers. Being relatively impermeable, till is also a major factor in the hydrologic cycle in the Dayton area as it slows recharge to underlying permeable deposits.

In places this till-rich zone is made up of well-defined aerially extensive till sheets; elsewhere it consists of numerous lenses and irregular masses of till grouped closely together at approximately the same altitude. In small areas, notably in the Mad River valley immediately below Eastwood Park, the till is either absent from the sand and gravel deposits or consists only of a few scattered lenses.

The upper surface of the till-rich zone lies generally 30 to 50 feet below the land surface in downtown Dayton. The base of the zone, which is much more irregular than the upper surface, ranges from about 60 to 125 feet below land surface. These levels are somewhat arbitrary as the sand and gravel deposits both above and below the till-rich zone contain scattered lenses and masses of till that make it difficult in places to correlate the deposits.

Locally, in the Miami River valley in central and northern Dayton, and more extensively in the Mad River valley downstream from Findlay Street, the till-rich zone consists of two layers, separated by several feet of sand and gravel. The upper till layer generally is thinner and less extensive than the lower till layer. Although locally the intervening sand and gravel constitutes a separate aquifer, it is considered part of the upper aquifer.

The bedrock bounding the glacial outwash deposits consists of shale interbedded with thin crystalline layers of limestone. In the

upper few feet where this unit was subjected to weathering, fractures and openings along bedding planes are capable of conveying minor amounts of groundwater to wells. The remainder of the unit is considered impermeable.

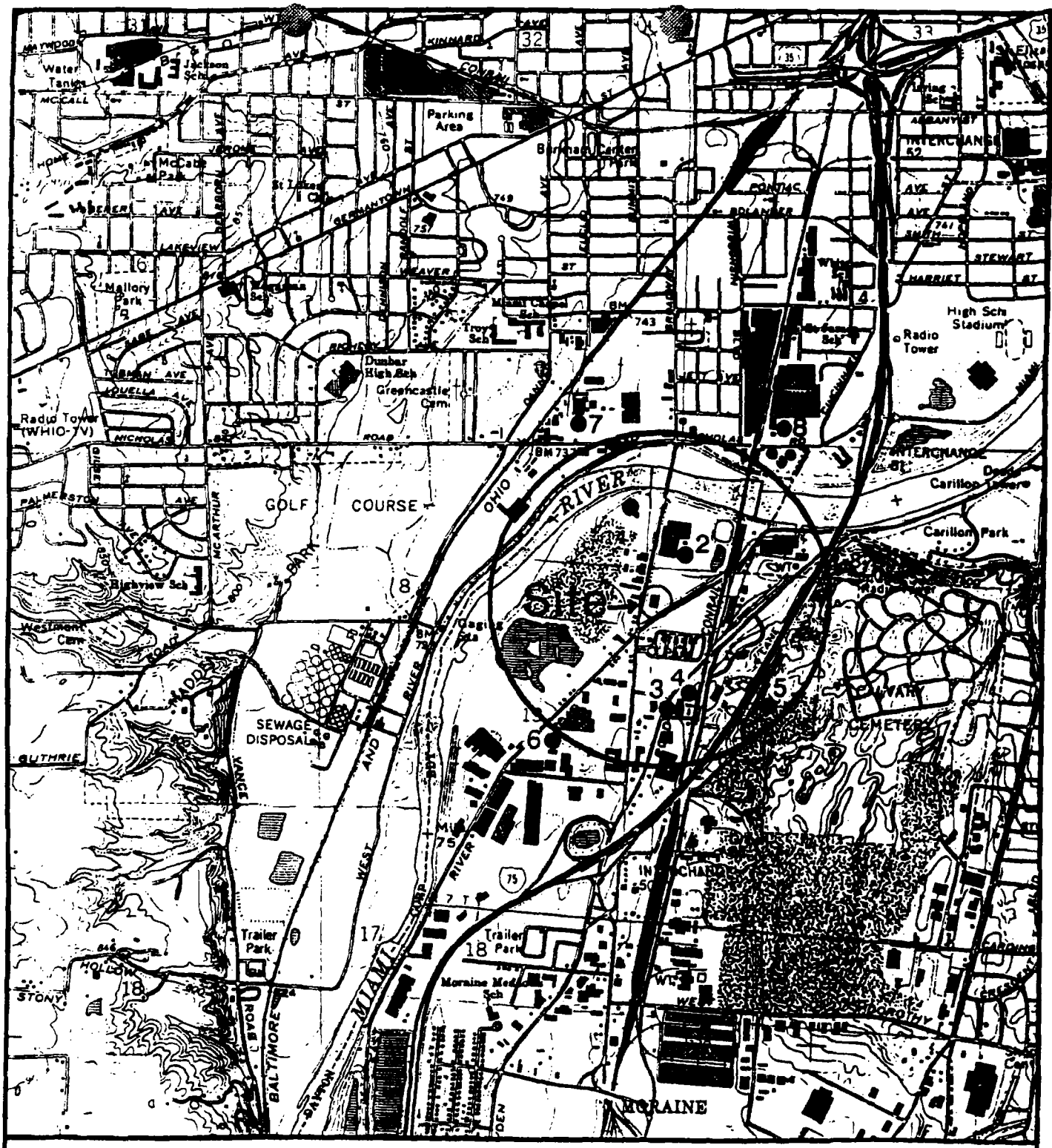
Upland glacial deposits, consisting mostly of till and clay and minor amounts of sand and gravel, overlie the bedrock along the aquifer boundaries or valley walls and provide some recharge to the outwash aquifer. For the most part, however, the upland deposits and the bedrock are less prolific sources of water and used primarily for farm and domestic water supplies.

SITE SPECIFIC HYDROGEOLOGIC SETTING

The information obtained during installation of the four test borings was used to evaluate the site specific hydrogeological setting. HKI also conducted a search of the Ohio Department of Natural Resources water well log file. Well logs for all located water wells within a 2,500-foot radius of the site were obtained. All known wells are industrial wells. Figure 3 presents the location of these water wells in relationship to the site. Copies of these water wells logs are presented in Appendix E.

The hydrogeologic setting at the site is as follows:

Fill material which varying in composition from sand and gravel to sandy gravel and silty clay was encountered from beneath the



Industrial Well Locations
Dayton Power & Light
Dryden Road
1900 Dryden Road
Moraine Township
Montgomery County
Dayton, Ohio

FIGURE 3

1 ● Industrial Well Location

feet
0 2000 4000

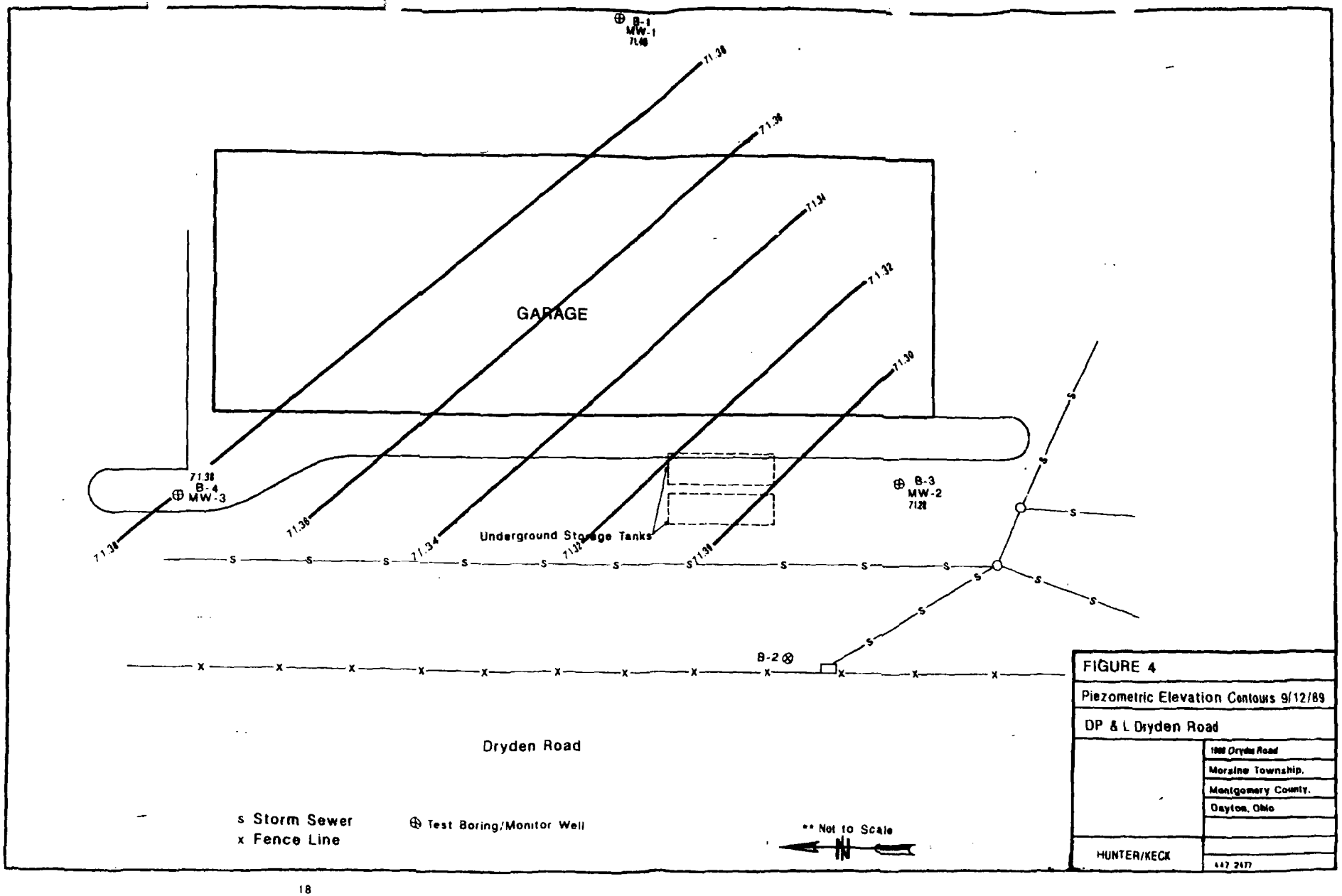
N

Adapted from 7.5' USGS topographic quadrangle: Dayton South, 1981.

asphalt to depths ranging from 16 to 21 feet below ground level. Fill material was identified from ground surface to a depth of 27 feet BGL on one of the water well logs obtained from ODNR. Beneath the fill material, all test borings drilled by HKI encountered sand and gravel deposits and occasional boulders. Groundwater was encountered in each of the test borings between 26 and 27 feet BGL. Review of the water well logs indicates that a clay horizon may be present beneath the site at a depth between 40 and 60 feet BGL. Based on groundwater measurement obtained on 9/12/89, the direction of groundwater flow is to the southwest. The piezometric surface as observed on 9/12/89 is shown on Figure 4.

SURROUNDING LAND USAGE

The areas to the east and west of the site are primarily used for light industrial and commercial purposes. Surrounding facilities include the old Tait Generating Station, a trucking terminal, and metal fabrication facilities. A residential trailer park is located to the southeast of the site.


B-1
MW-1
71.40
71.38
71.36
71.34
71.32
71.30
GARAGE
71.38
B-4
MW-3
71.36
71.34
71.32
71.30
B-3
MW-2
71.28
Underground Storage Tanks
B-2
Dryden Road
s Storm Sewer
x Fence Line
Test Boring/Monitor Well
** Not to Scale
FIGURE 4
Piezometric Elevation Contours 9/12/89
DP & L Dryden Road
1988 Dryden Road
Moraine Township,
Montgomery County,
Dayton, Ohio
HUNTER/KECK
447 2477

Appendix A

Test Boring Logs

BORING/WELL LOG DATA

KECK CONSULTING SERVICES, INC.

PROJECT: DP&L: Dryden Road	WELL/BORING No.: MW-1/B-1
LOCATION: Dayton, Ohio	DATE DRILLED: 8/1/89
DRILLING METHOD: Hollow Stem Auger	CASING TYPE/DIA.: Schd. 40 PVC/2-inch
TOTAL DEPTH DRILLED: 37 feet	TOTAL CASING: 34.45 feet
GROUND ELEVATION: 98.39 feet	T.O.C. ELEVATION: 97.80 feet
GROUT TYPE/QUANTITY: Bentonite and Cement/ approx. 75 gallons	SCREEN TYPE/LENGTH: PVC/10 feet
GROUT INTERVAL(S): Surface to 21 feet	SCREENED INTERVAL: approx. 24.4 to 34.4 feet
DEPTH TO WATER: approx. 27 feet	GRAVEL PACK TYPE: Keck #50
WATER LEVEL ELEVATION:	GRAVEL PACK INTERVAL: 23 to 25 feet
	STATIC WATER LEVEL: 26.40 feet DATE: 9/12/89

REMARKS: All elevational data has been referenced to an arbitrary benchmark.

LOGGED BY: Timothy F. Hebert | SIGNATURE:

In feet DEPTH	H2O/SOIL SAMPLE	FORMATION DESCRIPTION
0 - .5		Asphalt
.5 - 7.5		Sand and Gravel; Coarse gravel, well rounded, medium to fine sand, brown, not saturated, fill material
7.5- 16		Sandy Clay; black-brown, moist, disturbed soils (fill) containing glass and oxidized metal, not saturated, minor perched water may be present at approx. 14 feet, identified a thin stringer of brown clay at 15.5 feet, poor cutting returns, brown clay contains some medium to coarse gravel and was cohesive.
16 - 37		Sand and Gravel; medium to coarse and and gravel, hard drilling due to large cobbles, poorly sorted with some silts, appears saturated at approximately 27 feet

SPLIT SPOON SAMPLING

Interval	Number	Blow Counts	Recovery	PID	Comments
4 - 6	SS1	7,21,22,27	approx. 10 inches	< 1 ppm	Sand and gravel, brown, not saturated
9 - 11	SS2	4,4,6,10	approx. 10 inches	< 1	Sandy Clay, black-brown
14 - 16	SS3	6,8,10,20	approx. 17 inches	< 1	Sandy Clay, ASA to 15.5 feet, brown clay to 16 feet
19 - 21	SS4	6,8,10,12	approx. 10 inches	< 1	Sand and gravel, brown, medium to coa
24 - 26	SS5	18,18,19,22	approx. 9 inches	< 1	Sand and gravel, ASA
29 - 31	SS6	44,25,22	approx. 11 inches	< 1	Sand and gravel, ASA
34 - 36	SS7	23,27,44	Not recorded	40-50 ppm	Sand and gravel, ASA, soil sample

BORING/WELL LOG DATA

KECK CONSULTING SERVICES, INC.

PROJECT: DP&L: Dryden Road	WELL/BORING No.: MW-2/B-3
LOCATION: Dayton, Ohio	DATE DRILLED: 8/25/89
DRILLING METHOD: 4¼-inch Hollow Stem Auger	CASING TYPE/DIA.: PVC/2.0 inch
TOTAL DEPTH DRILLED: 36 feet BGL	TOTAL CASING: 35.62 feet
GROUND ELEVATION: 98.19 feet	T.O.C. ELEVATION: 97.86 feet
GROUT TYPE/QUANTITY: See groundwater monitoring well completion diagrams	SCREEN TYPE/LENGTH: 0.010 PVC/10 feet
GROUT INTERVAL(S): "	SCREENED INTERVAL: 25.6 to 35.6 feet
DEPTH TO WATER: 26.0 feet BGL	GRAVEL PACK TYPE: No. 5 Quartz Sand
WATER LEVEL ELEVATION:	GRAVEL PACK INTERVAL: 23.8 to 36.1 feet
	STATIC WATER LEVEL: 26.58 ft. DATE: 9/12/89

REMARKS: One sample every 5 feet; BGL = below ground level

LOGGED BY: Paul Stork SIGNATURE:

In feet DEPTH	H2O/SOIL SAMPLE	FORMATION DESCRIPTION
0 - .5		Asphalt
4 - 6	B3-1	0.75 feet Fill, fine gravelly sand, some medium and coarse sand,
10,30,44,19	1045	trace silt and clay, poor sorting and subrounded to sub-
		angular, dry, tan. 0.75/2.0 Recovery
9 - 11		No recovery, pushed cobble. Note: at 7.0 feet, auger cuttings were
12,12,11,6		black, sandy gravel, with coal ash-like odor (fill)
14 - 16	B3-2	0.8 feet Fill, silty clay, some medium sand and cinders, moist,
3,12,15,10	1103	low plasticity, black, roofing tar odor
		0.2 feet Fine gravelly clay, medium plasticity, slightly moist, tan
		1.0/2.0 Recovery
19 - 21	B3-3	0.7 feet Fill, medium sand and fine gravel with clay, poor
12,15,10		sorting, slightly moist, tan. 0.7/2.0 Recovery
24 - 16	B3-4	0.5 feet Pounded through quartzite coarse gravel
87-106-37,19	1135	0.4 feet Fine gravel with coarse, medium, and fine sand, trace silt,
		poor sorting, moist, tan
		0.1 feet Fine gravelly clay, trace medium sand, medium plasticity,
		moist, tan, tip of spoon was saturated with water
		1.0/2.0 Recovery

BORING/WELL LOG DATA

KECK CONSULTING SERVICES,INC.

PROJECT: DP&L: Dryden PAGE: 2 DATE: 8/25/89 WELL/BORING No.: B-3

In feet DEPTH	H2O/SOIL SAMPLE	FORMATION DESCRIPTION
29 - 31	B3-5	0.8 feet Fine gravel, some coarse sand, trace silt and fine sand,
	1147	poor sorting, saturated, brown, slight hydrocarbon odor
		0.8/2.0 Recovery
34 - 35	B3-6	0.9 feet Fine gravel, trace coarse sand, well sorted, sub-
46,100/4	1206	rounded, grading into medium sand with fine sand, trace
		fine gravel and coarse sand, moderate sorting, saturated,
		brown, hydrocarbon odor. 0.8/0.9 Recovery

BORING/WELL LOG DATA

KECK CONSULTING SERVICES, INC.

PROJECT: DP&L: Dryden Road	WELL/BORING No.: B-2
LOCATION: Dayton, Ohio	DATE DRILLED: 8/3/89
DRILLING METHOD: Hollow Stem Auger	CASING TYPE/DIA.: N/A
TOTAL DEPTH DRILLED: 27 feet	TOTAL CASING: N/A
GROUND ELEVATION: 98.19 feet	T.O.C. ELEVATION: N/A
GROUT TYPE/QUANTITY: Bentonite and Cement/ approx. 90 gallons	SCREEN TYPE/LENGTH: N/A
GROUT INTERVAL(S): 0 - 27 feet	SCREENED INTERVAL: N/A
DEPTH TO WATER: approx. 26 feet	GRAVEL PACK TYPE: N/A
WATER LEVEL ELEVATION: N/A	GRAVEL PACK INTERVAL: N/A
	STATIC WATER LEVEL: N/A DATE:

REMARKS: The ground elevation at B-2 has been referenced to a benchmark of 100 feet. Was abandoned due to auger refusal.

LOGGED BY: Timothy F. Hebert SIGNATURE:

In feet DEPTH	H2O/SOIL SAMPLE	FORMATION DESCRIPTION
0 - .5		Asphalt
.5 - 6		Sand and Gravel; coarse gravel with medium to fine sand, brown, not saturated, fill material
6 - 17		Sandy Clay; black-brown, medium to fine sand, some indications of minor perched water at approximately 7 feet, soils are fill material as glass and oxidized metal fragments are present in cuttings
17 - 27		Sand and Gravel; brown, medium to coarse well rounded gravel, medium to coarse sand, poorly sorted, moist, saturation appears to be approximately 26 feet. Auger refusal at 27 feet, decided to abandon borehole and re-drill. Was bentonite/cement grouted through the augers to the near surface and plugged with granual bentonite. No well installed

SPLIT SPOON SAMPLING

Interval	Number	Blow Counts	Recovery	PID	Comments
4 - 6	1	8, 8, 10, 11	approx. 12 inches	< 1	Sand & gravel, brown, fill
9 - 11	2	6, 6	approx. 8 inches	< 1	Sandy Clay, black-brown, fill
14 - 16	3	6, 8, 17	approx. 5 inches	< 1	ASA, fill
19 - 21	4	74, 26	approx. 12 inches	< 1	Sand and gravel, brown
24 - 26	5	17, 16, 17	no sample retained	NA	

BORING/WELL LOG DATA

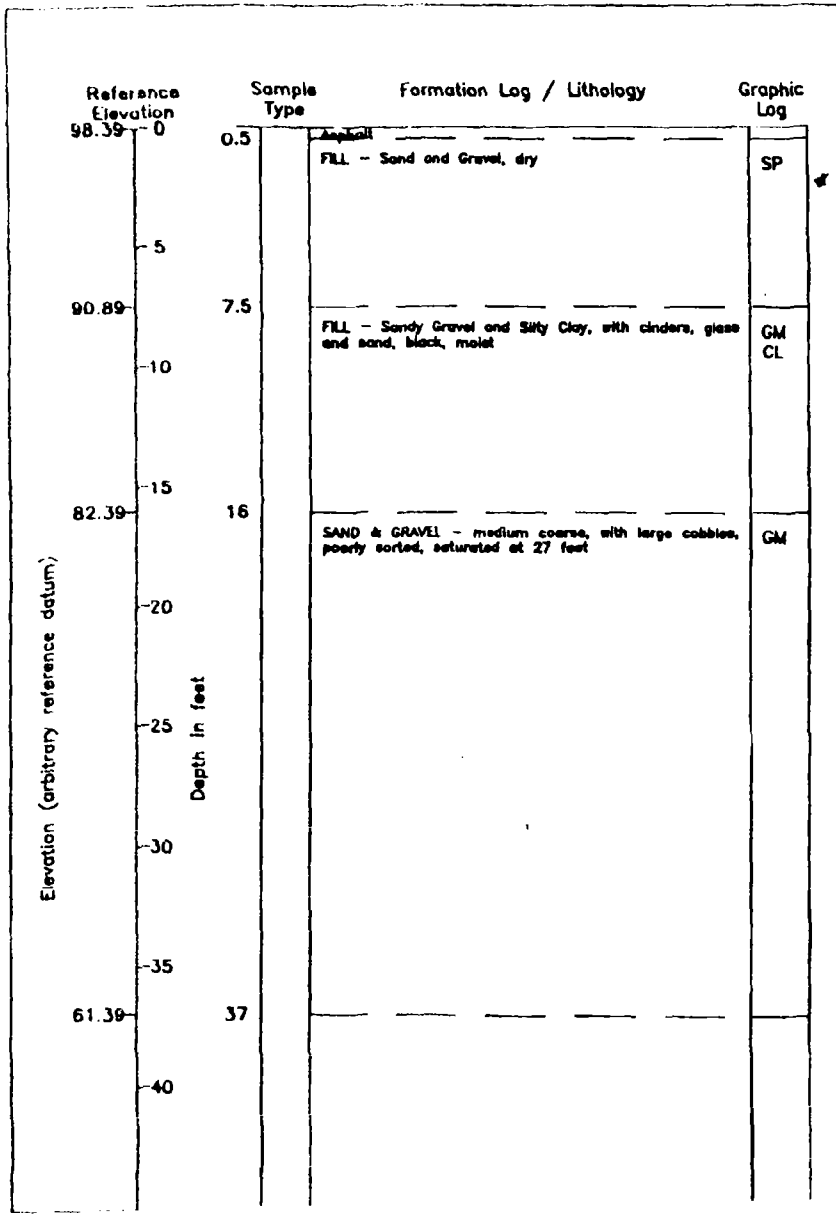
KECK CONSULTING SERVICES, INC.

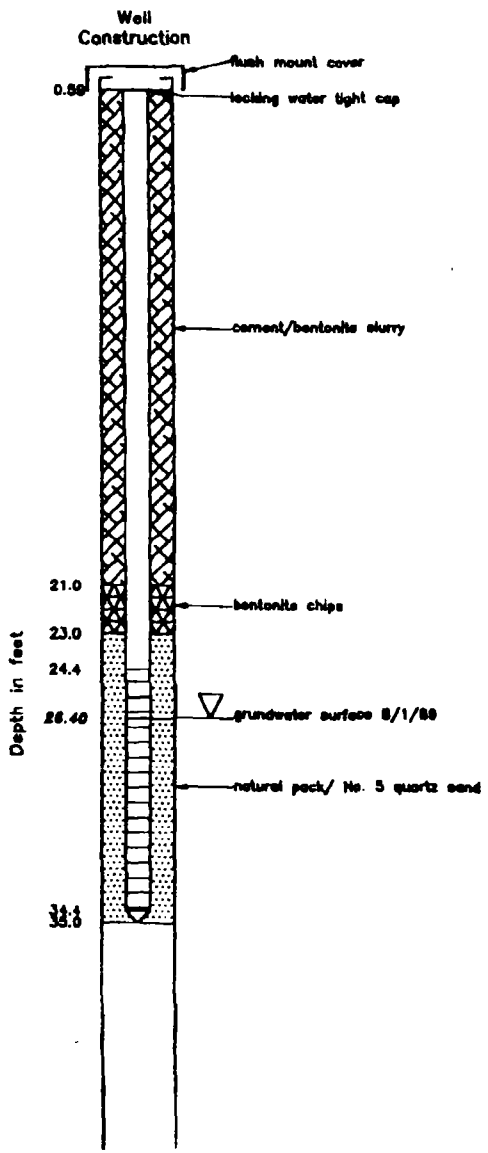
PROJECT: DP&L: Dryden Road	WELL/BORING No.: M-4
LOCATION: Dayton, Ohio	DATE DRILLED: August 28, 1989
DRILLING METHOD: Hollow Stem Auger	CASING TYPE/DIA.: PVC Sch. 40/2-inch
TOTAL DEPTH DRILLED: 31 feet	TOTAL CASING: Approx. 31 feet
GROUND ELEVATION: 98.55 feet	T.O.C. ELEVATION: 98.65 feet
GROUT TYPE/QUANTITY: Granular Bentonite/100 lbs. Bentonite Cement/45 gal.	SCREEN TYPE/LENGTH: PVC/10 feet
GROUT INTERVAL(S): 15 to 18 feet, 1 to 15 feet	SCREENED INTERVAL: 21 to 31 feet
DEPTH TO WATER: Approx. 26 feet	GRAVEL PACK TYPE: Natural Keck #5
WATER LEVEL ELEVATION:	GRAVEL PACK INTERVAL: 26 to 31 feet, 18 to 26 feet
	STATIC WATER LEVEL: 27.27 ft. DATE: 9/12/89
REMARKS: M-4 is re-drill boring for B-4; No split-spoon samples collected at M-4	
LOGGED BY: Timothy F. Hebert	SIGNATURE:

DEPTH	H2O/SOIL SAMPLE	FORMATION DESCRIPTION
		General Interpretation:
0 - 3"		Asphalt
3" - 1.5'		Backfill; grade stone
1.5 - 6'		Backfill; sand and gravel, brown, moist
6 - 14'		Sandy Clay; black, moist, appears to be fill material, saturated
		or perched zone of medium fine sand at approximately 11 feet,
		occasional fine gravel, increase gravel with depth,
		rough drilling at 14 feet
14 - 31'		Sand and Gravel; moist, medium coarse, poorly sorted, interbeds
		and gray-brown silt and clay indicated by drilling pressure.
		Rough drilling, break in drill pressure at 21 feet, poor
		cutting returns, refusal at 31 feet. Unit contains some
		substantial well rounded cobbles.

Appendix B

Groundwater Monitoring Well Completion Diagrams





RICK CONSULTING SERVICES, INC.
WELL INSTALLATION INFORMATION

Well Number: MW-1 Total Depth: 34.45 Feet Below Top of Casing

RCS Representative: Tim Mahern

Started: 8/01/89 Completed: 8/01/89

Drilling Method: 4 1/4-inch Hollow Stem Auger

Well Cover: Flush Mount Cap: Locking Water Tight

Riser: Diameter: 2.0 inches
Material: PVC
Joints: Machine Flush Threaded
Length: 11.88 Feet
Riser Interval: -0.88 to 24.4'

Screen: Diameter: 2.0 inches
Material: PVC
Type: Machine
Slot: 0.010 inches
Length: 10.0 Ft.
Screened Interval: 24.4 Ft. to 34.4 Ft.

Grout Material: Cement/Bentonite slurry
Quantity: 75 Gallons
Interval: Surface to 21.0 Feet

Seal Material: Bentonite Chips
Quantity: 100 lbs.
Seal Interval: 21.0 Ft. to 23.0 Ft.

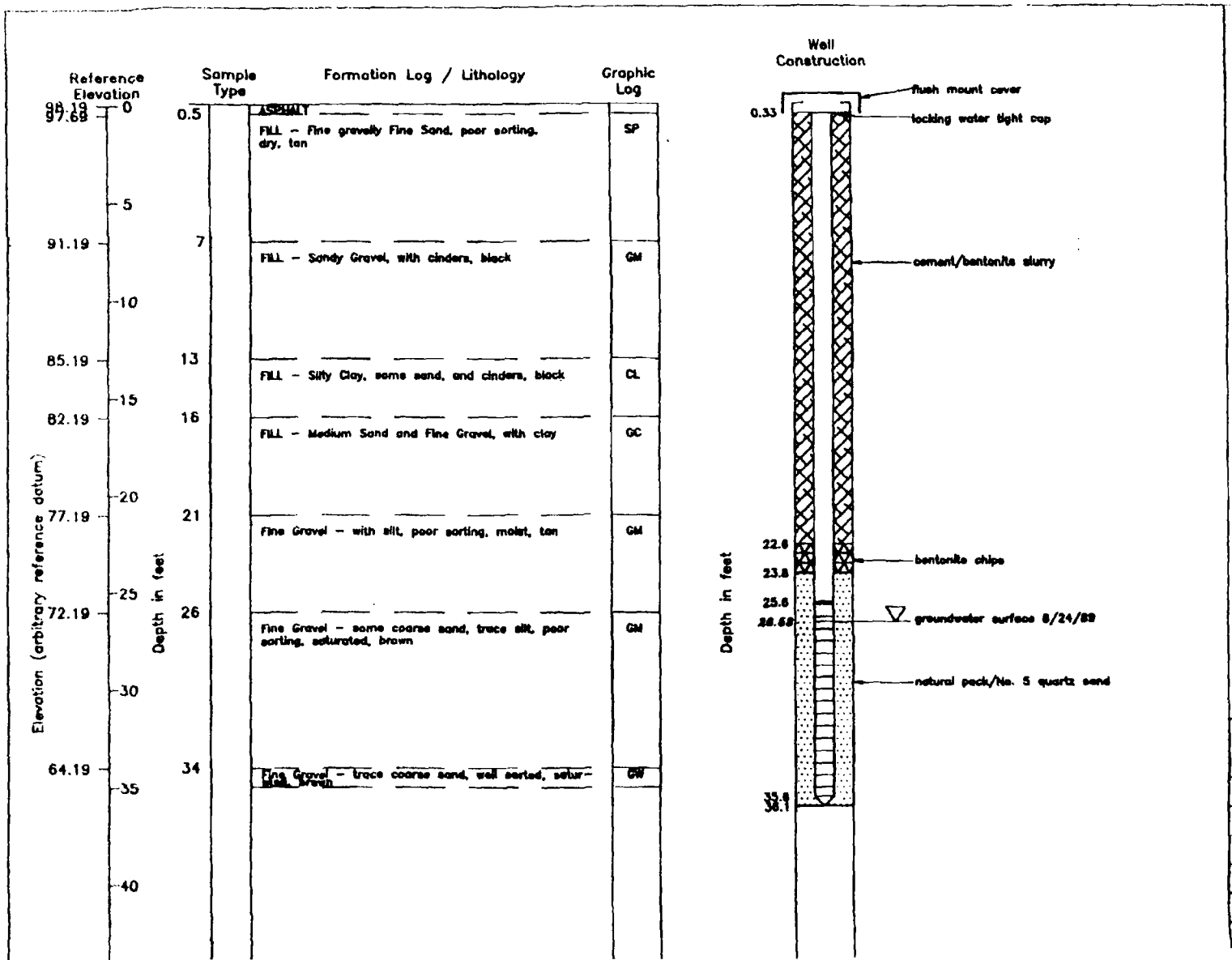
Filter Pack Material: Natural Pack/ No. 5 Quartz Sand
Quantity: 200 lbs.
Filter Interval: 23.0 Ft. to 34.0 Ft.

Depth to Groundwater: 26.40 Ft. BMSC

Date: 8/11/89

GROUNDWATER MONITORING WELL COMPLETION DIAGRAM

TEST BORING	B-1
WELL	MW-1
SHEET	1 of 1 DATE 10/4/89
CLIENT	Dayton Power & Light
LOCATION	Dryden Road
PROJECT	447-2477



KCS CONSULTING SERVICES, INC.
WELL INSTALLATION INFORMATION

Well Number: MW-2 Total Depth: 33.63 Feet Below Top of Casing

KCS Representative: Paul Stark

Started: 8/24/89 Completed: 8/24/89

Drilling Method: 6 1/4-inch Hollow Stem Auger

Well Cover: Flush Mount Cap: Locking Water Tight

Riser: Diameter: 2.0 inches
Material: PVC
Joints: Machine Flush Threaded
Length: 25.16 Feet
Riser Interval: +0.33 to 25.6 Feet

Screen: Diameter: 2.0 inches
Material: PVC
Type: Machine
Slot: 0.010 inches
Length: 10.0 Ft.
Screened Interval: 23.6 Ft. to 33.6 Ft.

Grout Material: Cement/Bentonite Slurry
Quantity: 88 Gallons
Interval: Surface to 22.6 Feet

Seal Material: Bentonite Chips
Quantity: 26 lbs.
Seal Interval: 22.6 Ft. to 23.8 Ft.

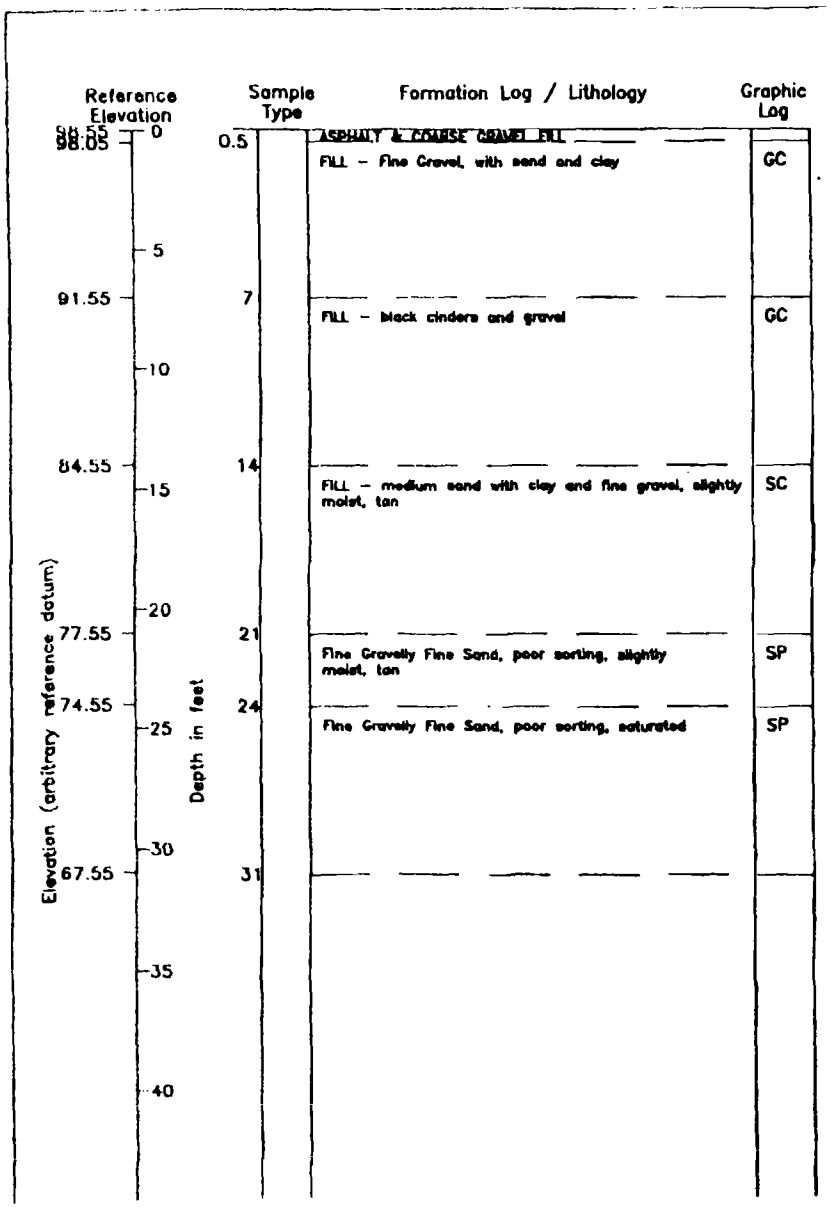
Filter Pack Material: Natural Pack/ No. 5 Quartz Sand
Quantity: 196 lbs.
Filter Interval: 23.8 Ft. to 33.1 Ft.

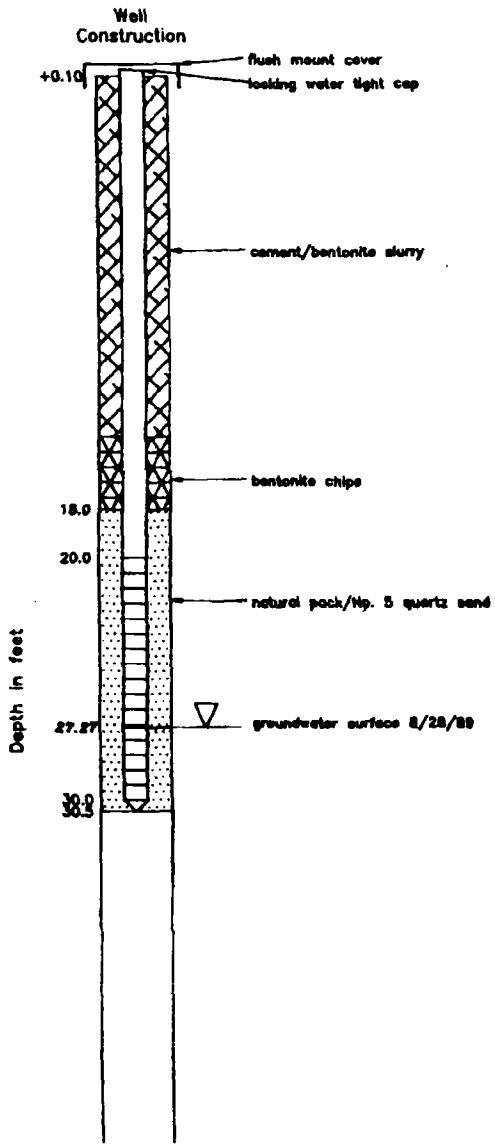
Depth to Groundwater: 26.58 Ft. BTOC

Date: 9/13/89

GROUNDWATER MONITORING WELL COMPLETION DIAGRAM

TEST BORING	B-2
WELL	MW-2
SHEET	1 of 1 DATE 10/4/89
CLIENT	Dayton Power & Light
LOCATION	Dryden Road
PROJECT	447-2477





ECCK CONSULTING SERVICES, INC.
WELL INSTALLATION INFORMATION

Well Number: MW-3 Total Depth: 30.48 Feet Below Top of Casing

ECS Representative: Tim Hubert

Started: 8/28/89 Completed: 8/28/89

Drilling Method: 4 1/4-Inch Hollow Stem Auger

Well Cover: Flush Mount Cap: Locking Water Tight

Riser: Diameter: 2.0 inches
Material: PVC
Joints: Beveled Flush Threaded
Length: 20.10 Feet
Riser Interval: +0.10' to 20.0'

Screen: Diameter: 2.0 inches
Material: PVC
Type: Machine
Slot: 0.010 inches
Length: 10.0 Ft.
Screened Interval: 20.0 Ft. to 30.0 Ft.

Grout Material: Cement/Bentonite
Quantity: 75 Gallons
Interval: Surface to 13.0 Feet

Seal Material: Bentonite Chips
Quantity: 180 lbs.
Seal Interval: 13.0 Ft. to 18.0 Ft.

Filter Pack Material: Natural Pack/ No. 5 Quartz Sand
Quantity: 880 lbs.
Filter Interval: 18.0 Ft. to 30.0 Ft.

Depth to Groundwater: 27.27 Ft. BGSC

Date: 9/11/89

GROUNDWATER MONITORING WELL COMPLETION DIAGRAM

TEST BORING	B-3
WELL	MW-3
SHEET	1 of 1
DATE	10/4/89
CLIENT	Dayton Power & Light
LOCATION	Dryden Road
PROJECT	447-2477

Appendix C

Groundwater Monitoring Well Field Data
Sampling Records

Hunter/Keck, Inc.
Groundwater Monitoring Field Data Log Sheet

Client: Dayton Power and Light Company

Project Location: Dryden Road
Dayton, Ohio

Well I.D.: MW-1

Sampler's Name: Andy Granskog

Date Sampled: 9/12/89

Signature: _____

Total Depth from Top of Casing 33.40 Ft.

Top of Casing Elevation: 97.80 Ft.

I.D. of Casing: 2 inch

Stick Up: - .41 Ft.

TOC Depth to Water: 26.40 Ft.
Method of Measure: Water Level Indicator
Time of Measurement: 11:30 Hr.
Water Height in Well: 7.0 Ft.
Water Volume in Well: 1.17 Gal.

Sampling Method: Bailer

Purging Method Bailer and Keck Pump
Recovery Data:
TOC Depth to Water: _____ Time: _____
(in centimeters) _____ _____

Sample#	Time	Volume	Preservative	Analysis
MW1	1350	VOA	Refrig	Blank
MW1	1350	VOA	Refrig	Blank
MW1	1355	VOA	Refrig	BTEX
MW1	1355	VOA	Refrig	BTEX
MW1	1355	VOA	Refrig	BTEX
MW1	1405	VOA	Refrig	Lead
MW1	1405	VOA	Refrig	Lead
MW1	1400	1000 ml	Refrig	TPH

	Temp (C)	pH	Cond. umho/cm	Volume Water Purged
1.	19.5	7.01	1.4	70 gal
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Physical Properties:

Free Product: None

Odor: None Color: Brown

Turbidity: _____

Observations: Good recharge, but didn't clear well. Developed 70 gallons.

Hunter/Keck, Inc.
Groundwater Monitoring Field Data Log Sheet

Client: Dayton Power and Light Company

Project Location: Dryden Road
Dayton, Ohio

Well I.D.: MW-2

Sampler's Name: Andy Granskog

Date Sampled: 9/12/89

Signature:

Total Depth from Top of Casing 34.04 Ft.

Top of Casing Elevation: 97.86 Ft.

I.D. of Casing: 2 inch

Stick Up: - .33 Ft.

TOC Depth to Water: 26.58 Ft.
Method of Measure: Water Level Indicator
Time of Measurement: 11:40 Hr.
Water Height in Well: 7.46 Ft.
Water Volume in Well: 1.24 Gal.

Sampling Method: Teflon Bailer

Purging Method Bailer and Keck Pump
Recovery Data:
TOC Depth to Water: _____ Time: _____
(in centimeters) _____ _____
_____ _____
_____ _____

	Temp (C)	pH	Cond. umho/cm	Volume Water Purged
1.	21.4	6.96	1.8	100 gal
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Sample#	Time	Volume	Preservative	Analysis
MW2	1450	VOA	Refrig	Blank
MW2	1450	VOA	Refrig	Blank
MW2	1520	VOA	Refrig	BTEX
MW2	1520	VOA	Refrig	BTEX
MW2	1520	VOA	Refrig	BTEX
MW2	1520	VOA	Refrig	Lead
MW2	1520	VOA	Refrig	Lead
MW2	1525	1000 ml	Refrig	TPH

Physical Properties:

Free Product: Sheen on water surface

Odor: Slight Color: Brown

Turbidity: _____

Observations: Good recharge.
Developed 100 gallons.

Hunter/Keck, Inc.
Groundwater Monitoring Field Data Log Sheet

Client: Dayton Power and Light Company

Project Location: Dryden Road
Dayton, Ohio

Well I.D.: MW-3

Sampler's Name: Andy Granskog

Date Sampled: 9/12/89

Signature: _____

Total Depth from Top of Casing 30.46 Ft.

Top of Casing Elevation: 98.65 Ft.

I.D. of Casing: 2 inch

Stick Up: -.10 Ft.

TOC Depth to Water: 27.27 Ft.
Method of Measure: Water Level Indicator
Time of Measurement: 11:35 Hr.
Water Height in Well: 3.19 Ft.
Water Volume in Well: 0.50 Gal.

Sampling Method: Teflon Bailer

Purging Method Bailer and Keck Pump

Recovery Data:
TOC Depth to Water: _____ Time: _____
(in centimeters) _____ _____
_____ _____
_____ _____

Temp (C)	pH	Cond. umho/cm	Volume Water Purged
1. 20.2	7.04	1.6	2.5 gal
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Sample#	Time	Volume	Preservative	Analysis
MW3	1535	VOA	Refrig	Blank
MW3	1555	VOA	Refrig	Blank
MW3	1555	VOA	Refrig	BTEX
MW3	1555	VOA	Refrig	BTEX
MW3	1555	VOA	Refrig	BTEX
MW3	1555	VOA	Refrig	Lead
MW3	1555	VOA	Refrig	Lead
MW3	1555	1000 ml	Refrig	TPH

Physical Properties:

Free Product: None

Odor: None Color: Brown

Turbidity: _____

Observations: Slow recharge.
Bailed dry 5 times.

Appendix D

Laboratory Reports
Chain-of-Custody Record

Chemrox Laboratory Services

217 Long Hill Crossroads Shelton, CT 06484 Phone 203 926-9081 Fax 203 926-9334

September 29, 1989

Report #A247
Hunter/Keck
521 Byers Road/Suite 101
Miamisburg, OH 45342

Attention: Dave Kearns

Purpose and Methodology:

Six samples, Project Number: 447-3600, were submitted to Chemrox Laboratory Services. The client requested the following analyses:

- BTEX
- Dissolved Lead
- Total Petroleum Hydrocarbons

The volatile organics were analyzed by purge and trap GC in accordance with Method 601/602. The analysis was performed on a Varian 3400 GC system equipped with a Tekmar Model LSC2000 headspace concentrator.

The petroleum hydrocarbons were extracted in accordance with EPA Method 9070 and analyzed in accordance with EPA Method 418.1. The analysis was performed on a Perkin Elmer Model 1420 Infrared Spectrophotometer.

The metals were prepared in accordance with EPA Methods 3005 and 3020. The metals were performed using a Perkin Elmer Plasma 40 ICP Spectrometer and a Perkin Elmer Zeeman 5100 Atomic Absorption Spectrophotometer equipped with a Perkin Elmer HGA 600 graphite furnace.

The results of the analysis are presented in the following tables.

Prepared by:

Peter W. Georges

Peter W. Georges
QA/QC Officer

chemrox

ANALYSIS RESULTS

Company Hunter/Keck | Date Received 09/15/89 | Matrix Liquid

Job Number A247 | Date Extracted 09/19/89 | Units ppm

Analysis Lead | Date Analyzed 09/26/89 | Analyst M. Withrow

SAMPLE ID	PARAMETER
	LEAD
891291 MW1	< 0.006
891292 MW2	0.010
891293 MW3	0.018

Chemrox Laboratory Services
Connecticut Certification #PH-0559

BTEX ANALYSIS BY GC

Client Hunter/Keck | Date Received 09/15/89 | Matrix Water

Job Number A247 | Date Analyzed 09/27/89 | Units µg/L (ppb)

Method Purge and Trap GC | Analyst C. Spiteri

DLM	1	1	
COMPOUND	BLANK	891296 MW3 3:35	METHOD DETECTION LIMIT
Benzene	U	U	2
Ethylbenzene	U	U	5
Toluene	U	5.0	5
Totalxylene	U	12	5

U = Undetected

Chemrox Laboratory Services
Connecticut Certification #PH-0559

BTEX ANALYSIS BY GC

Client Hunter/Keck | Date Received 09/15/89 | Matrix Water

Job Number A247 | Date Analyzed 09/23/89 | Units µg/L (ppb)

Method Purge and Trap GC | Analyst C. Spiteri

DLM	1	20	50	1	1	1	
COMPOUND	BLANK	891291 MW1	891292 MW2	891293 MW3	891294 MW1 1:50	891295 MW2 2:50	METHOD DETECTION LIMIT
Benzene	U	U	3,700	U	U	U	2
Ethylbenzene	U	2,900	6,100	U	U	U	5
Toluene	U	U	11,000	U	U	U	5
Totalxylene	U	1,100	7,500	U	U	9.8	5

U = Undetected

Chemrox Laboratory Services
Connecticut Certification #PH-0559

ANALYSIS RESULTS

Company Hunter/Keck | Date Received 09/15/89 | Matrix Liquid

Job Number A247 | Date Extracted 09/15/89 | Units mg/L (ppm)

Analysis TPHC | Date Analyzed 09/18/89 | Analyst J. Shames

SAMPLE ID	PARAMETER
	TPHC
891291 MW1	36
891292 MW2	58
891293 MW3	< 1

Chemrox Laboratory Services
Connecticut Certification #PH-0559

QUALITY CONTROL SUMMARY

Company Hunter/Keck Job Number A247 Analyst M. Withrow

PARAMETER	RELATIVE PERCENT DIFFERENCE	SPIKE RECOVERY %
Lead	U	102

Chemrox Laboratory Services
Connecticut Certification #PH-0559

HUNTER/KECK

OFFICE ADDRESS:
521 Byers Rd
Suite 101
Miamisburg OH 45342

CHAIN-OF CUSTODY RECORD

2104

PROJECT LOCATION	NAME OF CLIENT	PROJECT TELEPHONE NO.	PROJECT NUMBER
Dayton OH	Dryden Rd DP+L	(513) 859-3600	447-2477

ITEM NO.	SAMPLE NO.	TIME	NO. OF CONTAINERS	SAMPLE TYPE		SAMPLE DESCRIPTION	TRANSFER NO. & CHECK 1	2	3	4	5
1	MW 1	1:50p	2	VOAs	9/12/89	Pre MW-1 Bailer Blank					
2	MW 1	1:55p	3	VOAs	9/12/89	MW-1 BTEX					
3	MW 1	2:05p	2	VOAs	9/12/89	MW-1 Diss Lead					
4	MW 1	2:10p	1	1000ml	9/12/89	MW-1 TPH					
5	MW2	2:50p	2	VOAs	9/12/89	Pre MW-2 Bailer Blank					
6	MW2	3:20p	3	VOAs	9/12/89	~~MTBE~~ MW-2 BTEX					
7	MW2	3:20p	2	VOAs	9/12/89	MW-2 lead					
8	MW2	3:25p	1	1000ml	9/12/89	MW-2 TPH					
9	MW3	3:35p	2	VOAs	9/12/89	Pre MW-3 Bailer Blank					
10	MW3	3:55p	3	VOAs	9/12/89	MW-3 BTEX					

PERSON RESPONSIBLE FOR SAMPLE COLLECTION	DATE	AFFILIATION
Andy Granskog	9/12/89	HKI

PURPOSE OF ANALYSIS (use back of form if needed)

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	ACCEPTED BY	DATE	TIME
1	10	Andrew Granskog	storage HKI	9/12/89	
2	10	M. Carturight	FED X	9/14/89	1126
3					
4					

WHITE - Project Manager YELLOW - Geologist GOLD - Laboratory Copy

HUNTER/KECK

OFFICE ADDRESS:
521 Byers Rd
Suite 101
Miamisburg OH 45342

LABORATORY ADDRESS:

CHAIN-OF CUSTODY RECORD

2105

PROJECT LOCATION	NAME OF CLIENT	PROJECT TELEPHONE NO.	PROJECT NUMBER
Dayton OH	Dryden Rd DP+L	(513) 859-3600	447-2477

ITEM NO.	SAMPLE NO.	TIME	NO. OF CONTAINERS	SAMPLE TYPE		SAMPLE DESCRIPTION	TRANSFER NO. & CHECK 1	2	3	4	5
1	MW3	3:55p	2	VOAs	9/12/89	MW-3 lead					
2	MW3	3:55p	1	1000ml	9/12/89	MW-3 TPH					
3											
4											
5											
6											
7											
8											
9											
10											

PERSON RESPONSIBLE FOR SAMPLE COLLECTION	DATE	AFFILIATION
Andy Granstog	9/12/89	HKI

PURPOSE OF ANALYSIS (use back of front sheet if needed)

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	ACCEPTED BY	DATE	TIME
1	2	Andrew Granstog	STONEBEC HKI	9/12/89	9:-
2	2	M. Cartwright	FEDX	9/14/89	1126
3					
4					

Appendix E

Water Well Logs

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

Dayton

No. 155861

County Montgomery Township Miami Section or Lot Number

Owner Dayton Steel Foundry Co Address Miami Chapel Road

Location of property Plant site above

CONSTRUCTION DETAILS

Casing diameter 12" Length of casing

Type of screen Johnson Length of screen 25

Type of pump D.W. Turbine

Capacity of pump 600 G.P.M.

Depth of pump setting 90'

PUMPING TEST

Pumping rate 1000 G.P.M. Duration of test 8

Drawdown 20' Date 8/15/55

Developed capacity Above

Static level—depth to water 45

Pump installed by US

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
Note this well made thru bottom of existing 18" well 6' deep		
Gravel- clay balls	62	68
Gravel	68	74
Clay & gravel	74	83
Clay	83	98
Gravel	98	140

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, et

N.

W.

S.

See reverse side for instructions

Drilling Firm W. H. Boger & Son

Address Cols. Ohio

Date 8/20/55

Signed W. H. Boger

(1)

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No. 147466

County Montgomery Township (Moraine) Section of Township or Lot Number Southwest

Owner The Dayton Power & Light Address 25 North main St. Dayton.

Location of property 500 Yds South of Miami River on S. Broadway

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 70'

Type of screen ____ Length of screen ____

Type of pump 5 H.P. Turbine

Capacity of pump 4000 Gal per Hr.

Depth of pump setting 62'

PUMPING TEST

Pumping rate 20 G.P.M. Duration of test 8

Drawdown 50 ft. Date May 27

Developed capacity ____

Static level—depth to water 35

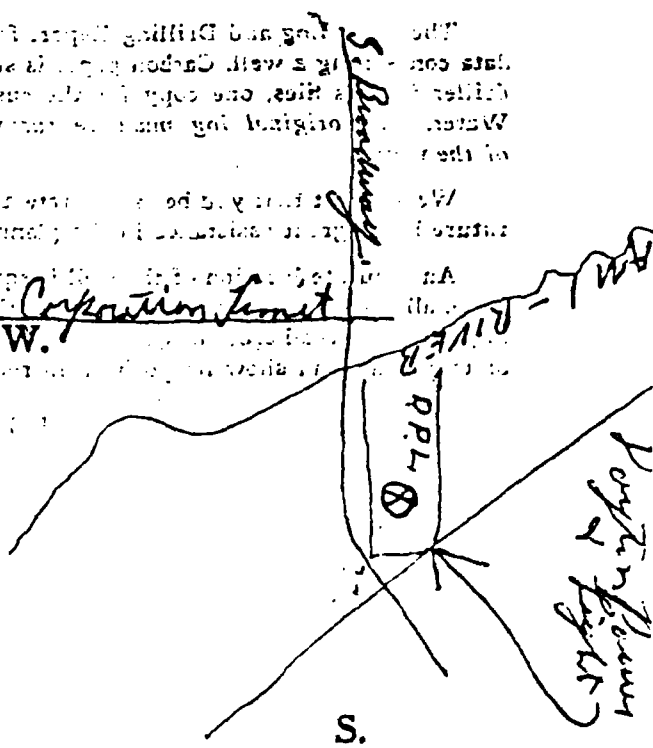
Pump installed by R. B. Pillman

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Fill	0 Feet	27 Ft.
Dry Gravel	27	41
Hard pan	41	47
Clay & Gravel	47	56
water sand & Gravel	56	70

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, e



See reverse side for instructions

Drilling Firm R. H. Scott

Address 5857 Brookland Rd Dayton (4)

Date May 27 - 55

Signed R. H. Scott

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No. 136475

County Montg Township Mound Section of Township or Lot Number 14

Owner Dayton Power & Light Co Address 25 North Main Dayton

Location of property Springboro Pike (State Rt 25) 1 Mile West

CONSTRUCTION DETAILS

Casing diameter 5 5/8 Length of casing 28'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate G.P.M. Duration of test

Drawdown ft. Date

Developed capacity

Static level—depth to water 23'

Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay & Gravel	0 Feet	15 Ft.
Clay	15	43
Sand	43	56
Gravel	76	78
Water @ 71'		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, et

N.

W. Springboro Pike Rt. 25

S.

See reverse side for instructions

Drilling Firm Gilbert Bros

Address 2900 Columbia

Date 9/12/54

Signed Gilbert Bros

WELL LOG AND DRILLING REPORT

ORIG

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

No. 179361

Moraine

County Montgomery Township [illegible] Section of Township

Owner Dayton Power & Light Address East Station Dayton

Location of property East Station Dayton, Ohio Corner E. Edwin & Dryden Rd.

CONSTRUCTION DETAILS

Casing diameter 20" Length of casing 101

Type of screen Red Brass Length of screen 50'

Type of pump —

Capacity of pump —

Depth of pump setting —

Date of completion —

BAILING OR PUMPING TEST

Pumping rate 3000 G.P.M. Duration of test 8

Drawdown 23 ft. Date 3/5/56

Developed capacity 3000 G.P.M.

Static level—depth to water 23

Pump installed by —

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Topsoil	0 Feet	10 Ft.
Gravel	10	30
Till	30	40
Gravel	40	63
Sand	63	70
Gravel	78	83
Gravel	83	92
Gravel	92	155

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc

N.

W.

S.

See reverse side for instructions

Drilling Firm Donald J. Roe

Address Vandalia, Ohio

Date 3/5/56

Signed Don Roe

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

No. 179363

County Montgomery Township Moraine Section of Township

Owner Dayton Power & Light Address Reid Tower Bldg, Dayton 4

Location of property Intersection of East River Rd & Springboro Pike
North East Corner

CONSTRUCTION DETAILS

Casing diameter 14" Length of casing 108'
Type of screen Red Brass Length of screen 30'
Type of pump —
Capacity of pump —
Depth of pump setting —
Date of completion —

BAILING OR PUMPING TEST

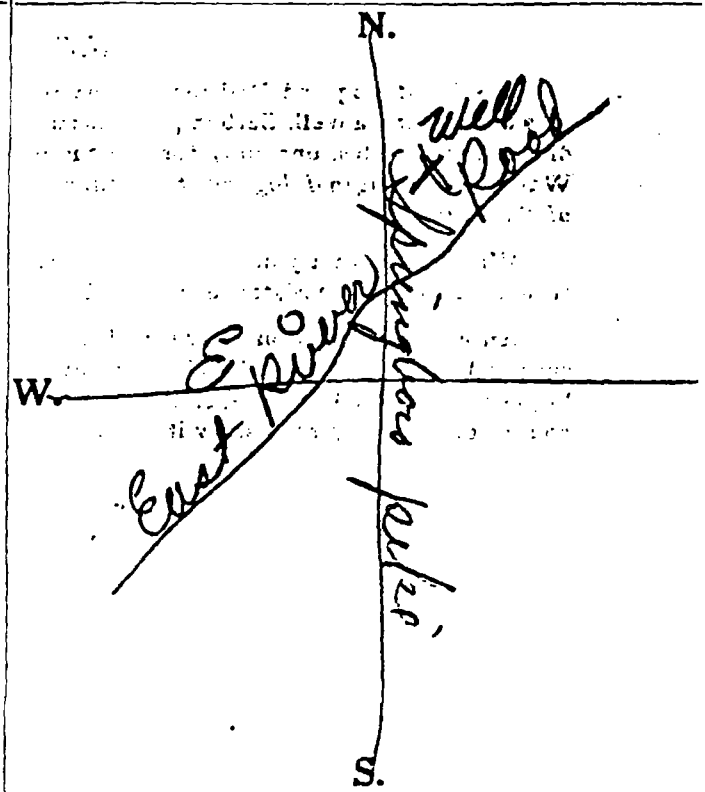
Pumping rate 1000 G.P.M. Duration of test 8
Drawdown 70 ft. Date July 20, 1956
Developed capacity 1000 G.P.M.
Static level—depth to water 30'
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Fill	0 Feet	18 Ft.
Gravel	18	33
Gravel	33	57
Gravel	57	62
Gravel	62	78
Till	78	104
Gravel	104	140
Till	140	143

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, e



See reverse side for instructions

Drilling Firm Donald J Roe Date July 20, 1956
Address Vandalia, Ohio Signed Donald Roe

12

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK

No. 34296

County Montgomery Township Moraine Section of Township

Owner The Dayton Power & Light Co. Address 25 N. Main St. Dayton

Location of property Intake Station - Between Plant & Railroad off Carillon Blvd. S of Day

CONSTRUCTION DETAILS

Casing diameter 20" O.D. Length of casing 168 ft.
Type of screen Red Brass Length of screen 65 ft.
Type of pump
Capacity of pump
Depth of pump setting
Date of completion

BAILING OR PUMPING TEST

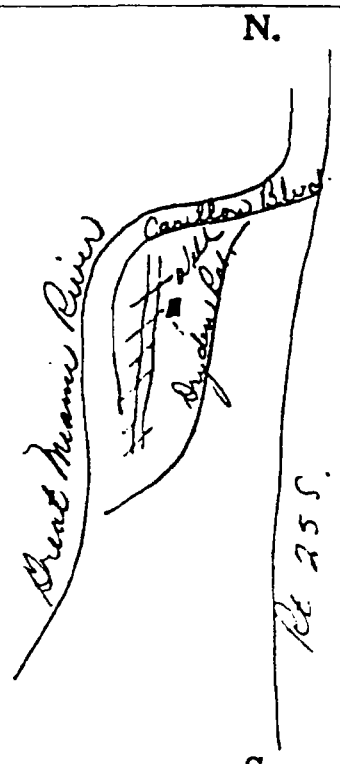
Pumping Rate 3010 G.P.M. Duration of test 8
Drawdown 17 ft. Date 4-1-66
Static level-depth to water 47
Quality (clear, cloudy, taste, odor) Clear
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Fill	0 Feet	3 Ft.
Dry gravel	3	40
Large wet gravel	40	60
Coarse gravel	60	65
Coarse sand & coarse gravel	65	70
Dirty sand & gravel	70	75
Dirty large gravel	75	80
Cemented gravel - water bearing	80	126
Coarse sand & coarse gravel	126	140
Cemented gravel	140	165
Medium sand	165	168
Clay	168	170

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc



See reverse side for instructions

Drilling Firm Timothy's Water Service Inc
Address P.O. Box 154, Vandalia, Ohio
Date April 7th 1966
Signed Ed B. Wagner - Pres.

*If additional space is needed to complete well log, use next consecutive numbered form

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

Page 1 of 2

No. 34298

PLEASE USE PENCIL OR TYPEWRITER

DO NOT USE INK.

County Montgomery Township ~~Perry~~ Moraine Section of Township

Owner Dayton Power & Light Co. Address Dayton, Ohio

Location of property Fait Station - Well #4

CONSTRUCTION DETAILS

Casing diameter 20" Length of casing 148'

Type of screen Red Brass Length of screen 50'

Type of pump Turbine

Capacity of pump 1000 G.P.M.

Depth of pump setting 147'

Date of completion June 7, 1967

BAILING OR PUMPING TEST

Pumping Rate 1000 G.P.M. Duration of test 8 h

Drawdown 8 ft. Date 7/8/67

Static level-depth to water 50

Quality (clear, cloudy, taste, odor) Clear

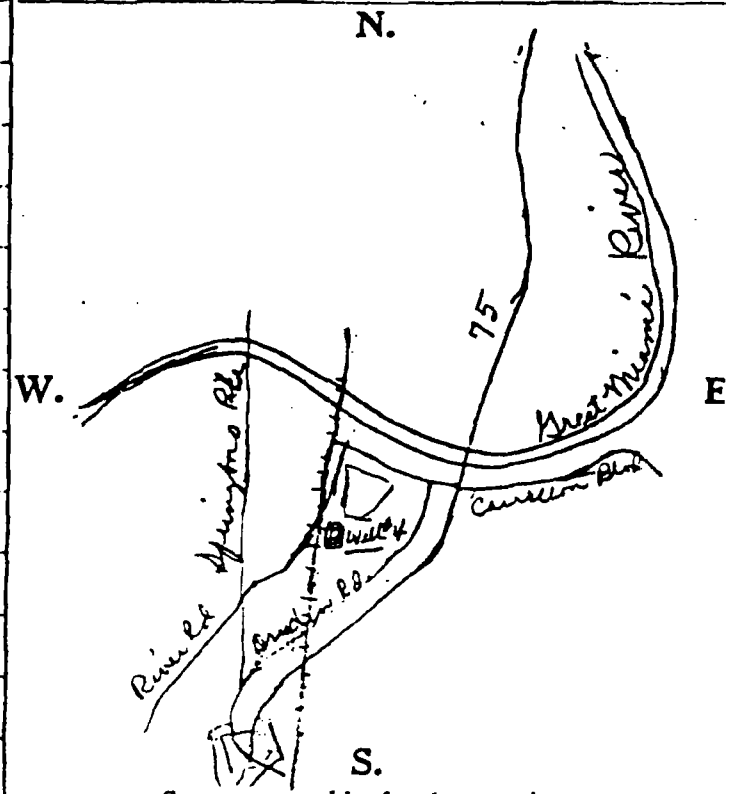
Pump installed by C. O. Burgess

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Road Bed & Fill	0 Feet	2 Ft.
Till	2	8
Dry Sand & Gravel	8	15
Coarse Sand & Gravel	15	25
Sand, gravel & boulders	25	35
Coarse sand & Coarse gravel	35	57
Till	57	64
Dty Cree Sand, gravel & Bldrs	66	79
Good Coarse sand & gravel	79	100
" " " " "	100	115
Med. Sand & Med. Gravel	115	126
" " & Fine "	126	130
Fine Sand & Med "	130	140

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Moody's of Dayton, Inc. Date November 13, 1967

Address P.O. Box 155, Vandalia, Ohio 45377 Signed V. L. Caspell

*If additional space is needed to complete well log, use next consecutive numbered form

WELL LOG AND DRILLING REPORT

Page 2

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK

No. 3429

County Montgomery Township ~~Harrison~~ Moraine Section of Township

Owner Dayton Power & Light Co. Address Dayton, Ohio

Location of property Tait Station - Well #4

CONSTRUCTION DETAILS

Casing diameter 20" Length of casing 148'
Type of screen Lee Brass Length of screen 50'
Type of pump Turbine
Capacity of pump 1000 G.P.M.
Depth of pump setting 147'
Date of completion June, 1967

BAILING OR PUMPING TEST

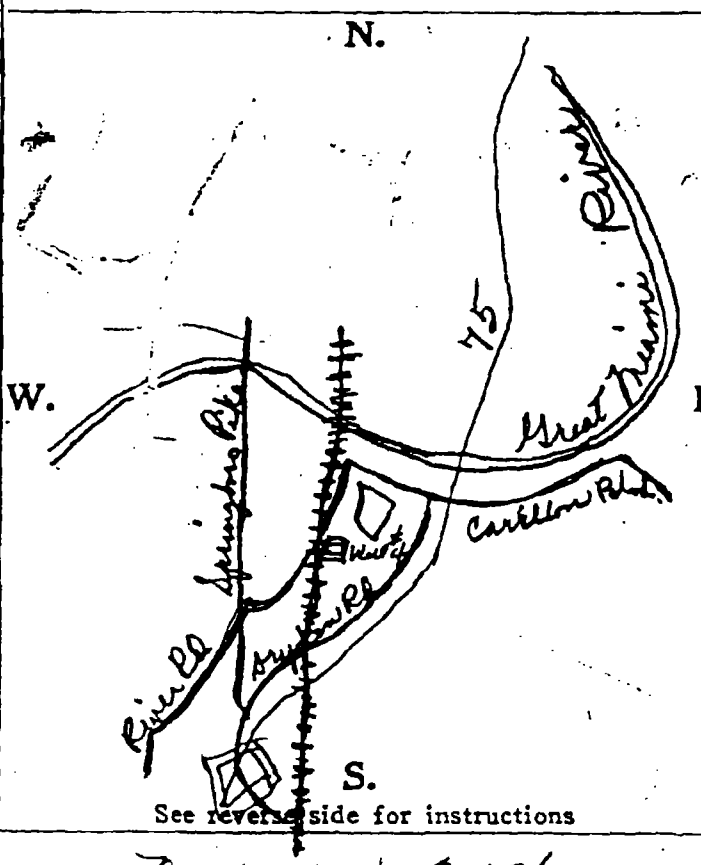
Pumping Rate 1000 G.P.M. Duration of test 8
Drawdown 8 ft. Date 7/8/67
Static level-depth to water 50
Quality (clear, cloudy, taste, odor) Clear
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
(Continued)	0 Feet	Ft.
Fine sand & Coarse gravel	140	144
Blue Clay	144	146
Good Med. Sand & Coarse gravel	146	156
" " " " " "	156	165
Yellow Clay	165	167
Coarse sand & Coarse Gravel (slight clay)	167	178
Coarse sand & Coarse gravel	178	198
Clay	198	200

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc



See reverse side for instructions

Drilling Firm Moody's of Dayton
Address P.O. Box 155, Vandalia, Ohio 45377

Date November 13, 1967
Signed V. C. Casper

*If additional space is needed to complete well log, use next consecutive numbered form

WELL LOG AND DRILLING REPORT

ORIGI

NO CARBON PAPER NECESSARY—SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

499062

COUNTY Montgomery TOWNSHIP Miami SECTION OR TOWNSHIP

OWNER Rachel Pritchard ADDRESS 2350 Dryden Rd

LOCATION OF PROPERTY Dayton Ohio 45439

CONSTRUCTION DETAILS

Casing diameter 5 5/8 Length of casing 130

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 30 gpm Duration of test 1

Drawdown 20 ft Date May

Static level (depth to water) 65

Quality (clear, cloudy, taste, odor) _____

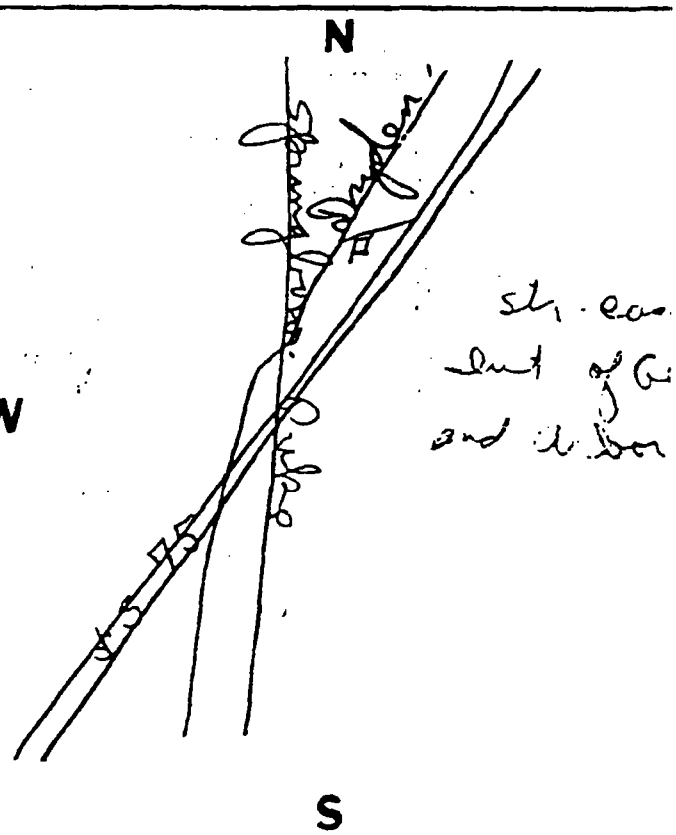
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay	0 ft	15 ft
dry gravel	15	85
water bearing gravel	85	130

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM CLAY P. GARRISON
WELL CONTRACTOR
ADDRESS 3901 S. DIXIE DRIVE
DAYTON, OHIO 45439

DATE May 9 76

SIGNED Clay P. Garrison

*If additional space is needed to complete well log, use next consecutive numbered form.

(3)

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 ; Phone (614) 466-5344

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

ORIG

493091

COUNTY Montgomery TOWNSHIP Mad River SECTION OF TOWNSHIP OR LOT NUMBER 7

OWNER Steve Tomsky ADDRESS 3853 Old Springfield Pike

LOCATION OF PROPERTY Dryden Road Englewood Ohio

CONSTRUCTION DETAILS

Casing diameter 5 5/8 Length of casing 115

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 30 gpm Duration of test 2

Drawdown 20 ft Date Feb 28.

Static level (depth to water) 70

Quality (clear, cloudy, taste, odor) _____

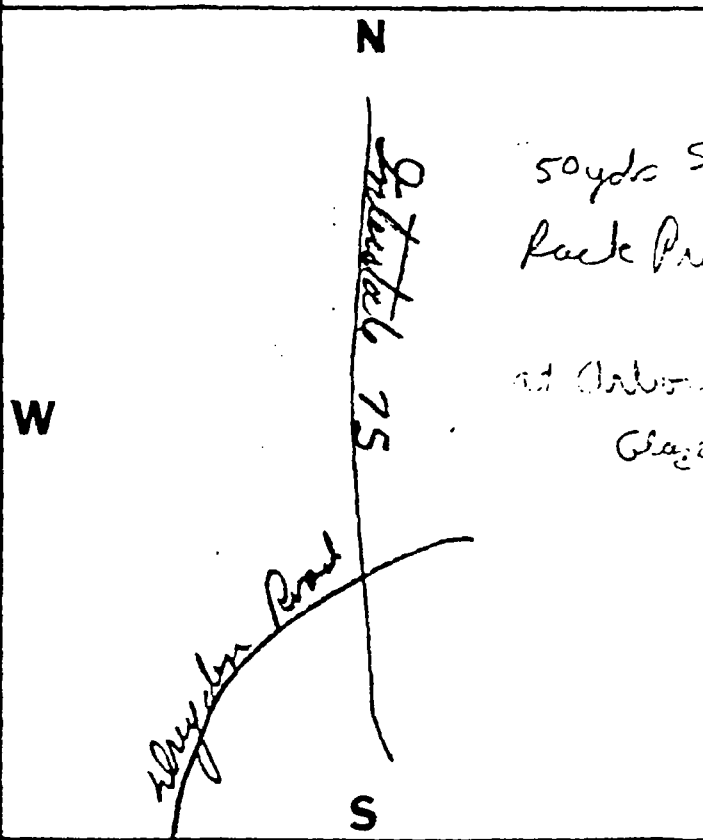
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay	0 ft	10 ft
blue gravel	10	101
Water Bearing gravel	101	115

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM CLAY P. GARRISON WELL CONTRACTOR

ADDRESS 3901 S. DIXIE DRIVE DAYTON, OHIO 45439

DATE Feb 28 76

SIGNED Clay P Garrison

*If additional space is needed to complete well log, use next consecutive numbered form.

(4)

County Permit No. _____

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

536349 A-L

COUNTY Montgomery TOWNSHIP Moraine SECTION OF TOWNSHIP _____

OWNER MOSIER TREE COMPANY ADDRESS 3910 Rexford Road - Dayton, Ohio 45430

LOCATION OF PROPERTY 2370 Dryden Road - Dayton, Ohio 45439

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 128

Type of screen 0 Length of screen _____

Type of pump Submergible

Capacity of pump 600 G.P.H.

Depth of pump setting 115

Date of completion June 26, 1980

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 20 gpm Duration of test _____

Drawdown 4 ft Date June 26, 1980

Static level (depth to water) 45

Quality (clear, cloudy, taste, odor) Clear

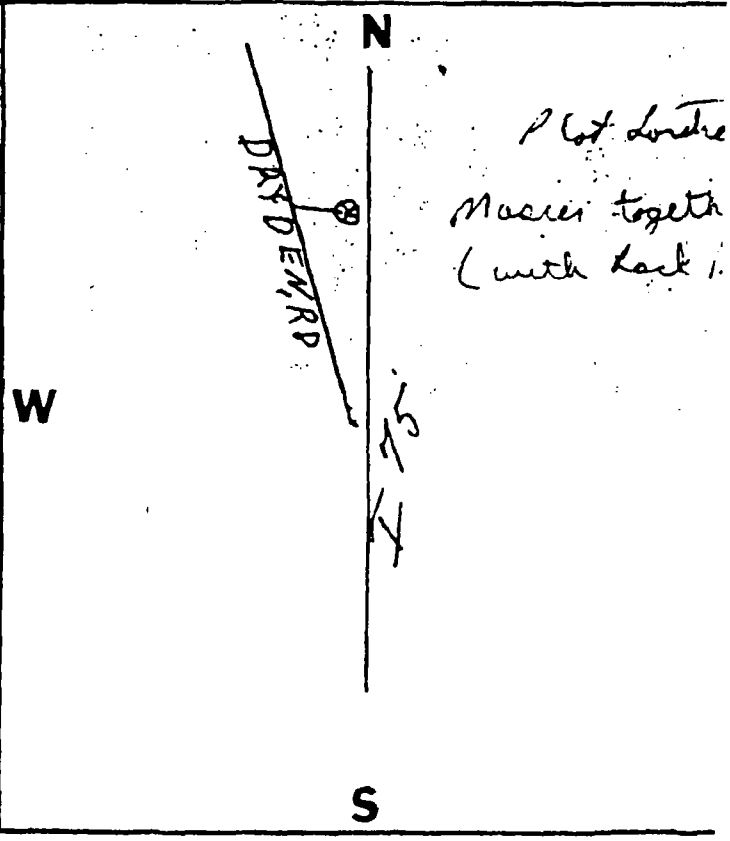
Pump installed by W.U. SCOTT COMPANY

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Yellow Clay	0 ft	7 ft
Dry Gravel	7	66
Water Gravel	66	128

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM W.U. SCOTT COMPANY DATE June 26, 1980

ADDRESS 11534 Peters Pike SIGNED W. U. Scott

Tipp City, Ohio 45371

*If additional space is needed to complete well log, use next consecutive numbered form.

(5)

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No. 158881

County Montgomery Township Miami Moraine Section of Township or Lot Number Northwest

Owner Moraine City Address Dayton

Location of property 900 S.W. from South Broadway on 2330 E. River Rd.

CONSTRUCTION DETAILS

Casing diameter 5 5/8 Length of casing 70

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Bailing

Pumping rate 25 G.P.M. Duration of test 1

Drawdown 0 ft. Date 8/10/57

Developed capacity 25 GPM

Static level—depth to water 24

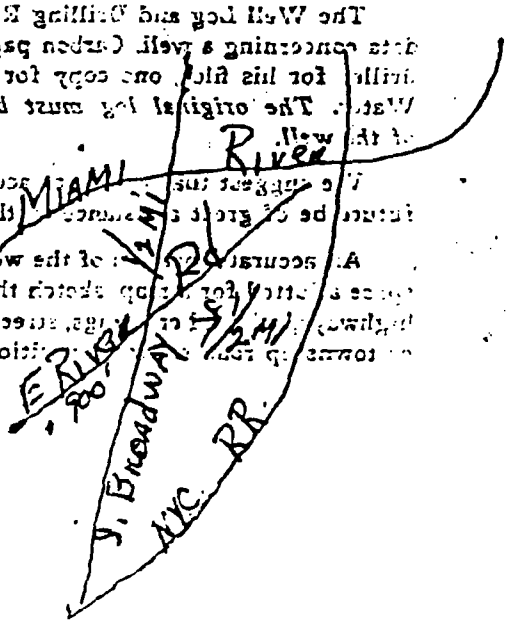
Pump installed by

WELL LOG

Formations — clay, shale, limestone, gravel and clay	From	To
Clay	0 Feet	4 Ft.
Gravel & Clay	4	30
Water Gravel	30	55
Sand & Clay	55	57
Water Gravel	57	70
Water at 30'		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc



See reverse side for instructions

Drilling Firm Lewis C. Harman Date 8/30/57

Address Natl Soldiers Home West Carrollton Signed Lewis C. Harman

County Permit No. _____

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

ORIGINAL (3)

553507

MRL

5

COUNTY Montgomery TOWNSHIP Dayton SECTION OF TOWNSHIP _____

OWNER Monsanto Research Co ADDRESS 7515 Nicklus Rd

LOCATION OF PROPERTY Land Dayton, Ohio

CONSTRUCTION DETAILS

Casing diameter 5 5/8 Length of casing 100

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 157 gpm Duration of test 2

Drawdown 25 ft Date July 26, 19

Static level (depth to water) 40

Quality (clear) cloudy, taste, odor) _____

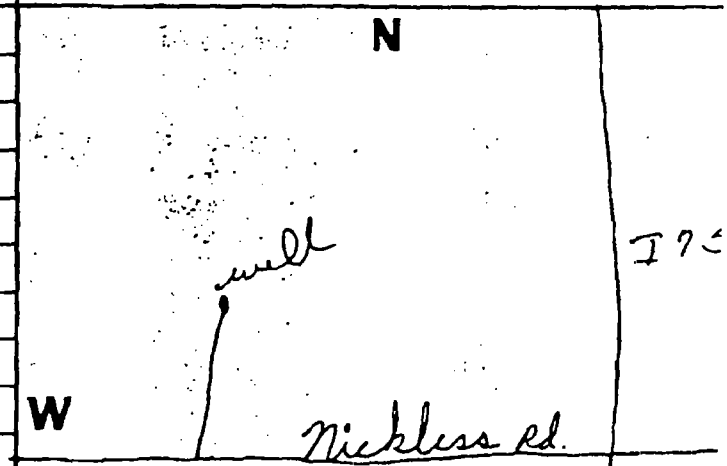
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay	0 ft	45 ft
Sand Gravel	45	70
Clay	70	80
Gravel	80	100

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Ronald Burchfield DATE July 26, 1979

ADDRESS 394 S Pike Dayton SIGNED Ronald Burchfield

Clay Garrison (7)

*If additional space is needed to complete well log, use next consecutive numbered form.